



Train

■ ELEVATOR OPERATION
AND MAINTENANCE

September
1936

Four!

*Time marches on! One - two - three - FOUR!
Yes sir! Time rolls on and brings us Number Four Issue
of GRAIN!*

*The newest magazine in the grain business strides forth
through the brilliant August sunshine upon sturdy legs, and
neither depression nor drought can stay its progress. GRAIN
has learned in its four issues of existence that the rewards
of life go to the courageous and tenacious. On the shining
face and uplifted brow the sun never sets . . . and the man
who holds on never loses his grip.*

*In this, GRAIN feels it reflects the indomitable spirit of the
grain industry — an industry though hit hardest in the past
few years, stamps forward in determined confidence!*

'36 Yield TOPS Utilization Average

AS we go to press alarming and frenzied reports of drought damage not only in the United States, but throughout the World, are continuing to pour in. Saner heads in the trade, however, are reserving their judgment of crop production until later, and are inclined to take the woeful stories and flaming newspaper headlines with more than a grain of salt.

The Winter wheat crop is fairly well established at about 550,000,000 bushels, while the Spring crop cannot be estimated accurately right now. The carryover this year is about 150,000,000 bushels and the 5-year (1923-27) average domestic utilization but

620,000,000 bushels, so it is just a little bit more than possible that grain storage interests will have fuller bins than most of us realize.

Furthermore, every good rain boosts late corn production tremendously.

One unmistakable omen of current sentiment is that the supply firms report "business is 'tip-top'."

The rumors and predictions of calamity and failure of crops affects only the minority. The grain industry, as a whole, realizing its basic part in the scheme of things surges forward with undaunted vigor!

Editorial

by DEAN M. CLARK

WE ALL know of the vast inroads foreign grain has made upon the American market. The daily press has been full of statistics showing that the continent of North America is now importing a great quantity of grain and its by-products from foreign soil.

Is there an actual need of this?

Is it possible that some of the "planned economies" of our present regime of statesmen have gone awry? Is it possible that the burdened farmer must purchase the commodity he grows? Can it be that the miller must buy an inferior type of foreign raw products to feed his rollers when the fallow ground beside his doorstep lies barren? Yes, it seems so.

But why should such a condition exist? Surely the faith of the founders of our country is broken when we passively allow our economic structure to become so imperilled. Is it for naught that our forefathers struggled and planned? What manner of breed are we to sit supinely by and see the greatest grain land the WORLD has ever known degenerate into a dependent importing weakling.

Grain men, awake! Let the red blood of our fathers sweep the fog from our brain and give us anew the vision of intelligent labor and foresight. Surely the hazards of drought and of erosion and of improper distribution are no worse than the hazards met and conquered by the pioneers who placed the fields of North America in the sun!

Co-operation, liberally mixed with wisdom, between farmer and elevator operator and miller and statesman will help solve the problem. And once again the clear-eyed faith of the American stewards of grain will overcome the shadows and lead us to the light.

Grain

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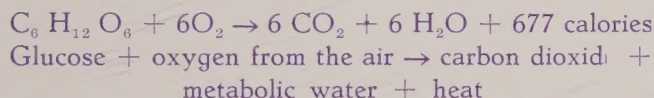
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Vice President

Grain Breathes

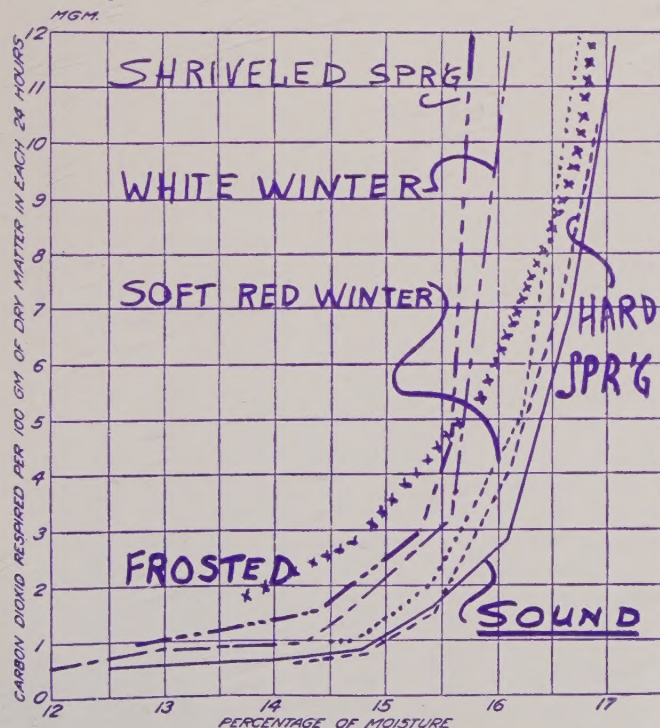
by C. H. BAILEY

THE history of man and the history of grain have been intimately linked since the dawn of time but now the laboratory produces proof of a closer relationship between the two — they both have the common characteristic of breathing, **and they both sicken from lack of pure air.**

First, let us determine just what respiration is in the case of grain. Biochemists who study this process wish to write a chemical equation (as chemists generally do) which describes this process. In its simplest form the following equation expresses what is presumed to be the most typical reaction of normal respiration in the presence of air.



Respiration as thus expressed may be defined as a biological oxidation which indirectly energizes



other essential reactions. But just how this is done is not yet apparent. As the above equation indicates,

heat is one of the characteristic products of the reaction. It is normally assumed by the chemists that the fuel disposed of in producing this heat is the glucose content.

"Unknowns" Still Unknown

Grain is a complex structure as it goes into a bin. There are three major structures entering into its make-up that can easily be identified but the other "unknowns" are there, too, and often upset the closest calculations. The three we are positive of are the fibrous outer envelope, or pericarp, the germ or embryo, and the starchy endosperm which constitutes the bulk of the weight of a typical cereal grain. In addition, the "coarse grains" such as oats and barley are enveloped in fibrous, chaffy glumes, or hulls.

The germ is presumed to respire about twenty times greater than an equal amount of the starchy endosperm. The other tissues respire in a lesser degree. The situation is further complicated by the presence, in commercial grain, of foreign substances such as weed seeds, chaff, straw, broken grains and other impurities. Some of these, notably the oily weed seeds, respire more vigorously than the cereal grains themselves.

Now the question raises itself: how can we measure the rate of respiration of cereal grains in the effort to thus determine their relative keeping qualities? The fact that heat develops as indicated by the preceding equation, as well as by practical experience, suggests that we might properly measure this heat. It is true that devices known as respiration calorimeters are available but they are enormously complicated and expensive. We see from our equation that a unit quantity of carbon dioxide is produced per unit quantity of heat so we shall be safe in es-

timating the level of respiration by the quantity of carbon dioxid.

On surveying the several factors responsible for variations in the rate of respiration of grain, the most prominent is moisture content. Elevator operators are well aware that damp grain exhibits a greater tendency to heat than dry grain.

Let us try to make this more precise, however, by actually measuring the level of respiration as we progressively increase the moisture content of typical sound, plump wheat. This relationship is graphically expressed in the chart.

In this lot of wheat, the rate of respiration increased slowly but surely until the moisture content reached 14.50%. Further increases in moisture resulted in a sharp increase of the level of respiration, as is seen clearly by the shape of the curve. We stop at 17.00% moisture because beyond that point, the wheat would not be warehousable. No doubt the curve would have continued sharply upward, however, had the moisture content been increased above 17.00%.

Protein — Test Weight Also Respiration Factors

So much for moisture content. Some other of the factors which come into play, in the instance of wheat, are equally interesting. Protein content is involved.

Careful measurements have disclosed that at the usual warehousable moisture content, soft, low-protein wheat respire more vigorously than hard, vitreous, high-protein wheat. Relative plumpness of the grain is also a consideration. The normal respiration curve in the chart is typical for 58 pound wheat. When we start moving *down* the scale of weight per bushel, the rate of respiration *goes up*. An additional angle on "soundness"—wheat that has been damaged in any way, for instance, sprouting, freezing before it's ripe, or bin-burnt respire much more vigorously and consequently tends to heat more promptly than sound grain. Another factor that every elevator superintendent knows of is the broken kernel. Tests have shown that broken kernels respire to a greater degree than whole kernels—with the resultant heat.

In the practical operation of an elevator, as well as in laboratory experiments, the respiratory rate is often controlled largely by the level of temperature. Within certain limits, the higher the temperature, the higher we find the rate of respiration. Moreover, the reaction of respiration in itself liberates heat energy which means that the farther the process goes, in the instance of bulk grain, the faster it travels. It's just like a wheel rolling down hill—it travels faster and faster as it gains momentum.

Heat-Loving Bacteria Kick Up Fever

It is difficult to say just how high a temperature can be reached by the respiration of the grain tissues themselves for, like all breathing things, a sufficient dose of their own carbon dioxid sickens them. In grain, though, there is the presence of molds, bacteria and other fungi which take up the job when the grain tissues succumb to the increasing presence of carbon dioxid. These heat-loving bacteria carry on the respiratory process until the temperature rises as high as 150 degrees F.

Since oxygen is used up and carbon dioxid is produced in the process of respiration, it naturally follows that the composition of the gases in the grain bulk is rapidly altered as respiration goes forward. In grain stored in a thoroughly dried state, we have found small change in these gases, but in the gases analyzed in bins of heating, damp grain we have discovered a mixture of 1% oxygen to 20% carbon dioxid. This carbon dioxid tends to accumulate over the surface of a partially filled bin and may reach a high enough level to asphyxiate a man going down into that bin. Such has been the sad experience in too many elevators.

It is interesting to note the effect carbon dioxid has on grain. In the first place, grain has a peculiar

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quality of adapting itself to an atmosphere charged with carbon dioxid. In ratio to other respiratory organisms, grain can "take it on the chin" far longer. But, in prolonged exposure, even grain succumbs to the devastating effects and loses its germinating qualities. And when the bulk is removed from the presence of the carbon dioxid, the respiratory process gains new life and surges forward to a higher degree than if it had never come in contact with carbon dioxid—which, as the elevator men say, "Means hot grain!"

The significance of oxygen in stimulating respiration becomes evident in a practical way in terms of the graduated temperatures which are often reached in a bin filled with uniform material. Under such circumstances the highest temperatures usually are reached near the surface. The temperature of the surrounding air has some bearing upon the exact depth of the hottest spot, however, and the latter will be nearer the surface in warm weather and deeper, say five to eight feet, in cold weather. Remember, this premise is laid upon the lines of a bin uniformly filled. If there is a damp spot in the bin, that spot will naturally register the highest temperature.

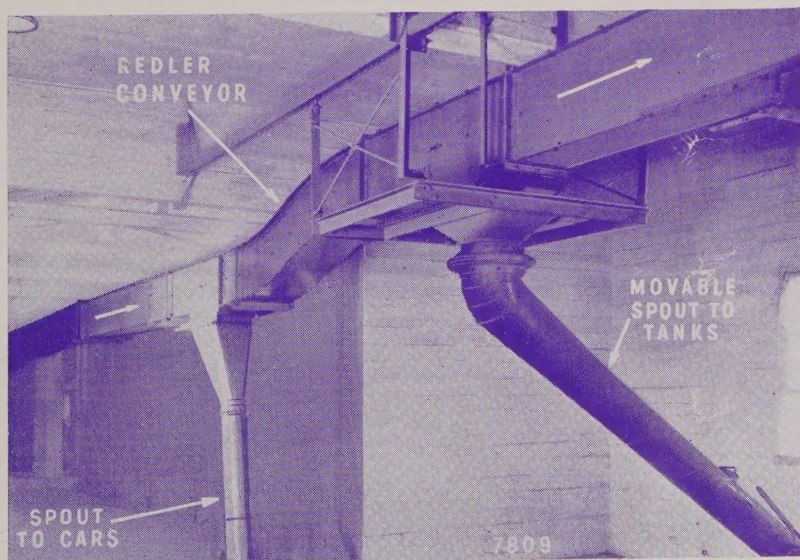
Corn Respiring King

So far, the information has been chiefly about wheat, but we find that what holds good in wheat is usually a yardstick for the other small grains. The only exception is that while bulk wheat in a bin has about one-half of the space occupying air, the other grains have a greater bin content of air due to their disparity in uniform size. This naturally leads to a higher level of respiration but the spread is so small, it does not enter into consideration. Corn, compared with wheat, is king in the way of respiring. The embryo, or germ, is the chief respirer in a grain, and corn ranks an 11% proportion of embryo to the kernel as compared with wheat's 2%.

Now, in conclusion, the laboratory agrees with the man on the job in the elevator, that, to prevent excessive respiration, grain should be kept cool and dry as possible. We have pointed out the chemical changes which occur during the various phases of stored grain and we feel that the men in charge of bulk grain will gain a new insight to their practical labors, and know that the men in the laboratories are shoulder to shoulder with them in the cause of Grain.

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"F. A. Q." in Australia

by L. S. HARRISON

*Ass't Mgr., New South Wales Grain Elevators,
Sydney, Australia*

Down in 9th place on the list of wheat growing countries, the "Land Down Under" leaps to 3rd position in the race for wheat exporting supremacy.

Australia's annual crop of 150,000,000 bushels allows her seven million inhabitants ample food and leaves a 100,000,000 bushel surplus for export. This is only a little in excess of 2% behind second-place Argentina. Canada leads the field with a tremendous margin.

Wheat and wool are the chief exports of Australia and the two products are closely entwined from start to finish, for every wheat grower raises sheep. The baa-baas save the farmer a lot of machinery besides fertilizing the land. This practice has been in effect since the first Scotch settlers arrived.

Mindful of the future, the Australian farmer crops his land only every second year. This modern practice has gone far towards correcting the damage done by the early ranchmen who never gave thought to the eventual harm of incessant cropping.

The average annual rainfall comes to a scant seventeen inches but despite this, the continent has never known a general drought. States have been hit by local crop failures due to lack of rain but each time the yield in the other states has held the total production up to normal.

Fall is planting time in Australia and Winter wheat is King. He divides his kingdom into three provinces — the White, the Hard and the Soft. The White is the largest, constituting about 85% of the total, while the remaining 15% is shared equally by the Hard and the Soft.

The White wheat, running about 11.00 protein, is known as a "filler" wheat. The hard wheat of very good quality, assays up to 15.00 protein and commands a 6c premium. The soft wheat runs high in carbohydrates and is used domestically.

No Horses, Either

Unlike America, the art of threshing is a lost one

in Australia. Combines are used exclusively and, owing to the 110 degrees in the shade temperature, constitute the most successful method. When the wheat pours forth from the combines it immediately starts on its journey. The major portion of the crop is handled in bags averaging 186 pounds and is immediately hauled to the railroad. Here, in most part, are great tin-roofed storage sheds into which the bags are stacked awaiting shipment. However, especially in New South Wales, an increasing amount of bulk storage facilities are being put into operation along the railroads. Over the entire wheat country the field is ripe for an enterprising concern to build strings of elevators, but so far capital has been harder to uncover than straight haired sheep.

Aside from the greater efficiency acquired in handling the grain in bulk, the economic question of the bags argues further against their use. The bags are purchased from India at a net price to the farmer of 16c for which he receives in return the weight of the sack as figured in with his shipment. A substantial loss on the face of it — and a needless one.

All wheat is handled on the F. A. Q. (fair average quality) basis. This method, although admittedly weak in segregating the better wheats, suits the needs of both farmers and operators so well that there never has been any agitation for a change. The F. A. Q. grade is fixed following the completion of the harvest. A ten pound sample of the millable wheats is sent from each country station and mixed in proportion to the amount held. This final sample is submitted to the United Kingdom buyers as representative of the crop for that year. No government control is exercised over the inspection of grain.

Nothing Smutty

Weed seeds are practically nil in the computation of dockage, the principal components being wild oats, chaff and straw. The use of copper carbonate dust has stamped out the threat of smut and about the only damage experienced results from a rare frost or an occasional dose of rust. Old Man Weevil though, is no respecter of countries and Australia has its share. If the wheat moves in export immediately

following the harvest, no trouble on this score is found, but if seven or eight months elapse before the grain moves, it is very apt to go out of condition due to the boring bugs. Australian wheat averages about 9.20% moisture, and 10.50% moisture is considered too high to carry with safety.

"Warrants" or negotiable warehouse receipts, backed by the state government, are issued to each wheat owner and he in turn can hold or sell same as he sees fit. Storage and handling charges for the first seven months total 5c and further charges of 1c a bushel per month commence July 31. A rebate of 1c a bushel is allowed if the wheat is sold and taken within six weeks. These charges may seem low, but they cover expenses. Grain will not be stored indefinitely, the government retaining the right to sell within the crop year. The government stands the shrink, which never exceeds one-tenth of one per cent and is usually nil, and absorbs the loss of any grain going bad.

An Australian would never break up essentially sheep country to plant grain. There is enough land for all requirements.

Some 8,000,000 bushels of corn are produced annually but none is exported. Oats are grown to the

(Concluded on Page 12)

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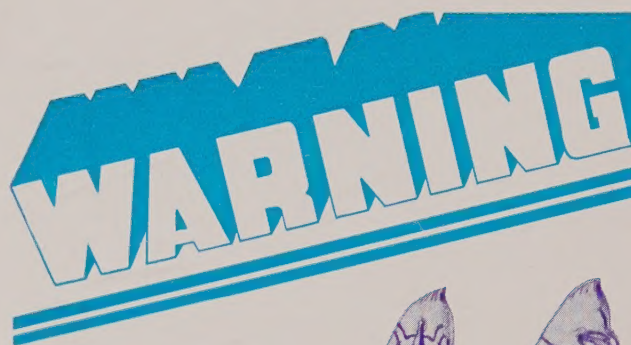
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Prince Protein

THE baker hollers for flour of a protein content to suit his own particular needs. The miller demands wheat of a specified percentage of protein to make the kind of flour his trade requires. The grain operator buying wheat in the open market carefully checks the protein content of his receipts. The elevator superintendent painstakingly segregates, other factors being equal, his inbound cars according to the marked protein content. *Now, what in thunderation IS this thing called protein?*

The scientific definition runs on and on through a maze of technical jargon but it all boils down to this: Proteins are the nitrogen compounds found in all grains. Of course, there are other constituents in wheat such as carbon, hydrogen, oxygen, sulphur, calcium, phosphorus, iron, et al, but fats and carbohydrates contain these, too. It is only in the protein that the all-important nitrogen is found.

Now let's see how and why different protein ratings affect the various products turned out by applying heat to dough. Flour with a low protein content is the type most suitable for crackers, pastry and cake. It absorbs from 56% to 60% water in the process of making dough. . . . A medium protein content fills the bill for an all-purpose household flour. This type absorbs from 58% to 60% water. . . . The high protein flour is the pet of the bakers. This absorbs from 60% to 65% water. And there we have it; the dividing line between the three groups is as clear and defined as the difference in the ultimate uses.

The Soft Red Winter Wheat, of comparatively low protein content, is usually milled in Ohio, Indiana, Missouri and Michigan. The Minneapolis district mills Spring Wheat, while the Kansas area runs to milling the Kansas Hard Winter Wheat, a type of high protein content. The East plays no favorites and mills all classes.

This year's crop of Hard Winter Wheat is hitting between 9% and 14% protein, while the Soft Red Winter Wheat runs from 8½% to 12% protein. In comparison, last year's crop was more or less shrivelled and dried up and contained a higher percentage of protein. Its test weight ran from 50 to 58 lbs. per bushel compared with this year's 60 to 62½ pounds. The milling yield of flour for '36 should far exceed that of last year due to the plump berries, and from a milling standpoint it is greatly superior in quality and weight than any crop in recent years.

Determining Gluten Content

The gluten content in flour is determined by weighing a small portion of flour, molding it into a doughball, removing the starch by washing, drying and reweighing. Knowing the protein percentage, the miller can easily fix the gluten content of his wheat. For example, if the protein content is 12%, the gluten content can be made as high as 11.2%. This is an interesting parallel which holds good in the majority of tests.

Now, let's peep into the laboratory and see just how the protein test is accomplished. The official sample is received, checked and docked. Next it is ground into a fine, mealy flour. One gram of this is weighed into a pyrex glass flask with one drop of mercury, potassium or sodium sulphate, and 20 c.c.'s of C. P. Sulphuric Acid. This concoction is boiled for sixty minutes and at the end of that period, we find a clear mixture. This the chemist dilutes with approximately 225 c.c.'s of water and places it upon the nitrogen distilling apparatus where it is again boiled. The resulting steam and ammonia is condensed into a $\frac{1}{10}$ normal Sulphuric Acid solution. About 175 to 225 c.c.'s of this solution is collected and titrated. The number of c.c.'s used multiplied by the factor 5.7 gives the percentage of protein in the wheat tested. The entire procedure consumes about two hours.

A few of the larger flour mills have their own completely equipped laboratories where wheat must pass through the "ordeal of the test tube" before it is ground. Thus we see that the golden wheat rolling in from farms is guided from elevator bin to oven dough by Prince Protein.

F. A. Q. in Australia

tune of 15,000,000 bushels annually, the greater part of the crop being used for feed and about 2,000,000 bushels reserved for the Scotch. Barley yields about 8,000,000 bushels a year, three million going for export, three million for domestic uses and two million into steins.

Australia may be the "Land Down Under" geographically, but she's sitting on top of the world agriculturally.

Our Superintendents



G. J. SHAW

FROM Keppel Township, Ontario, comes G. J. Shaw. The Canadian Pacific Railway's Port McNicoll elevator salutes their Superintendent and the S.O.G.E.S. hails him one of their "active" directors.

"G. J." is a young bucko who first saw the icy Canadian day break on Jan. 2, 1868. For seventeen years he helped Senior Shaw on the farm and in the family saw-mill near Kemble, Ont. Then he rambled to the Michigan woods and spent two seasons in the lumber camps. Upon hitting the ripe old age of nineteen he pulled out of the deep woods and wound up with an elevator construction company in the Canadian West. A lot of country elevators bore the imprint of the Shaw touch somewhere in their construction the next few years in Manitoba and Saskatchewan. The firm of J. H. Tromanhauser came along and secured the Shaw services, making him construction foreman, and the towns which were then springing up so rapidly in that country were just as quickly supplied with elevators of the Shaw quality.

In 1902 "G. J." went east and constructed his first large elevator, a million and a half bushel marine elevator at Point Edward, Ontario. The job turned out alright for shortly after it's completion the Tromanhauser Company elected a new vice president in charge of construction, G. J. Shaw. A flock of fruitful years went by with elevators and mills and wharves and harbor work rising to stand as monuments to the achievements of the man from Keppel Township.

In 1918 the Canadian Pacific Railway Company engaged "G. J." as Superintendent of their Port McNicoll elevator and he has been in charge there ever since. It is a 7,000,000 bushels capacity house and no slouch in handling grain; it received 60,000,000 bushels during the '26 navigation season alone. G. J. Shaw is known throughout the business as a Superintendent who knows his grain and as director who knows his stuff. His early experience in building elevators is reflected in the position he has built for himself in the grain industry—both have been built solidly and well.

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NEWS FLASHES

From the Plants and Offices

"MAC" TO THREE RIVERS

Have been very much on the jump, since attending the Duluth-Minneapolis convention, with cargoes in and out, a mighty nice new house and new equipment. Like it well down here. Remember to tell all the boys to cast their vote for Toronto for next year's convention. Wish them all the best of luck.—James Mackenzie, Superintendent, Three Rivers (Que.) Grain and Elevator Company.

HERE HE IS AT LAST!

Here he is! Here's the Society's capable second vice president, Mr. S. S. Orstad. He's resident manager for the Federal Grain Limited and the Northland Elevator Company at Fort William, Ontario. And the boys there say he's simply into everything, gets his name (unwillingly) into the papers every week for his various civic activities and is always willing and ready to take a hold of new endeavors of merit. Maybe he'll have some news later about a new chapter of the Society being formed there for technical discussions.



S. S. ORSTAD

MINNEAPOLIS CHAPTER GOES INTO ACTION

By Ed Raether, Secretary-Treasurer

We've girded our loins for a big "push" to get our newly formed Chapter under way to a flying start. Now Paul Konopatzki of Bunge Elevator Corporation will act as chairman; and Paul Christensen of Monarch's "Republic" Elevator, Lewis Fried of Spencer Kellogg & Sons and M. M. Noxon of Ralston Purina Company will hereafter be charged with the duty of arranging the attractiveness of our future monthly meetings. Also Pat Bohan of the Searle Elevator will be chairman, assisted by Ovie Christopherson of Archer-Daniels "Delmar" Elevator, F. Maynard Losie of Twin City Trading Company and H. E. Bergman of Osborne-McMillan's "Shoreham" Elevator, on the New Membership Committee—who will likely add to their pleasant

HERE THEY ARE!

Here they are! These are some of the many active convention participants snapped in Duluth and Minneapolis recently, along with Dr. H. R. Brown exploding dust, the boat-ride picture, and the tune-ful pipers from James Richardson & Sons Eastern Terminal Elevator in Port Arthur—"who are real live wires", writes Superintendent Hugh Grant. Harold Battersby (left) is assistant millright and Don McDonald is in charge of the grain cleaners in the pictured elevator. These two members of the internationally famous McGillveray surely added spirit and color to every session and the convention gave them and their officers, Mr. James A. Richardson, Mr. C. S. Langille, and Superintendent Hugh Grant, a rising vote of thanks amid prolonged applause . . . Speaker Stanley M. Smith and N. M. Patterson & Son's Percy Poulton, both of Fort William, are snapped below Dr. Brown's "asbestos" dust photo, followed by Spencer Kellogg's Manager of Elevators, the well known Godfrey Morgan of Buffalo and the company's Sam Bullen of Superior. Oscar Olsen and Frank Beyer somehow have their likenesses painted on the side of the boat, while just below is James Mackenzie, now of Three Rivers, Quebec, telling his son he simply must stop running up such large long-distance phone bills. . . . You'll doubtless recognize many of the other outstanding personalities pictured among the scores of conventioners it is such a pleasure to show.



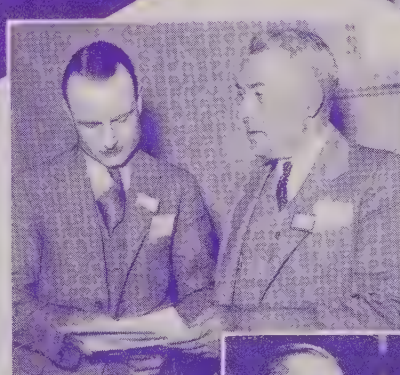
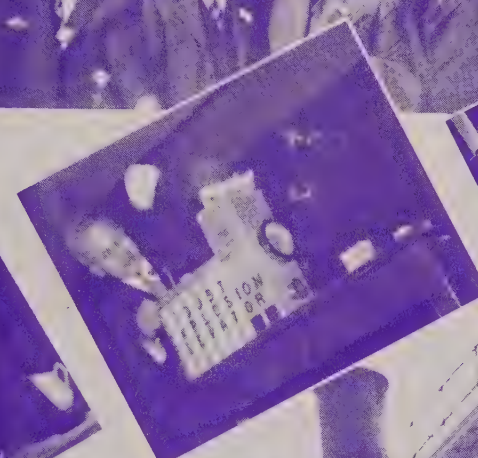
GLAD HE ACCEPTS

MR. C. C. BLAIR, Vice President and Manager of the Globe Elevator Co., Duluth, Minn., operating the Globe and the Peavey elevators there, writes: Your advising me that the Association has voted me an Honorary Life Member is indeed very gratifying and I appreciate it very much. . . . As you know, I have been intensely interested for several years in your organization, and I wish you all success in building it up as I feel it is highly educational for the Superintendents and, indirectly, for the the companies that employ them. I personally know that our Mr. Olsen has benefited by his experience as a member, director and president of the organization. . . . It is indeed very complimentary to me to receive this mention and I appreciate it very much.

ON DAWN OF SOLVING UNLOADING

Our Jack Coughlin has been working on Oscar Olsen's idea regarding the unloading of cars automatically. Jack says he thinks he's "got" it and believes that three-fourths of the car can be dumped quickly and cheaply. Will advise on developments.—Ed Raether, Secretary, Minneapolis Chapter.

duties that of stimulating attendance on the part of both old and new members and prospective joiners. . . . We took a vote and unanimously favor Kansas City for our next Annual convention preferably between May first and fifteenth. President "Moyie-Czar" Vic Champlin of Archer-Daniels and Vice President Jack Coughlin of Union Elevator Company are taking turns presiding. . . . Chicago Chapter just challenged us to a Membership Race, payable with a dinner at the next "National" meeting. Guess we'll have to take them on and show them how to do it! Chairman Paul Konopatzki promises us a meeting second to none—so beware Chicago Chapter. Our next meeting will be September 29.



BOOSTER GOES TO TOP



H. G. ONSTAD

H. G. Onstad of Chicago, Charter Member Twenty-Nine on the rapidly growing rolls of the Society, has bounded ahead with such gratifying strides that we all will glow in the reflection of the honor that has been bestowed upon him.

For "Heinie," as he is popularly hailed, has just been promoted to the presidency of his firm, the James Stewart Corporation, succeeding W. R. Sinks who hasn't been very active for some time. As a matter of fact, Mr. Onstad has had to shoulder the responsibility of the presidency, the vice presidency and general managership for so long that it might truthfully be said that **all** of the firm's activities in recent years have been conducted under his capable jurisdiction. And is that saying something important? Well, would building forty million bushels keep you or me occupied during the past six years? Our answers are: "You bet, and then some; lucky if we could build a carload a year!" But Mr. Onstad finds time to be an active Association worker on top of all his ponderous other responsibilities, and the fact that he now heads a progressive firm that has designed, engineered and constructed enough elevators and storage to smuggly house our entire present one hundred and fifty million bushel carryover, to say nothing of the hundred million total he has recorded to his own personal credit, simply characterizes the spirit that he breathes in every breath that surrounds him in his new post.

THEIR BUSINESS EXPANDING

"Our futures business has developed to an extent," advises Orrin Dowse, Vice President of Stratton Grain Company's Chicago office, "that we have arranged with the well known Mr. George E. Saunders to take charge of this department, and now feel we are in a position to give unexcelled service."

TO INSPECT NEW BUNGE HOUSE

Bunge's "Midway" Elevator will soon resemble a busy bee-hive, for Paul Kono-patzki has invited all the Minneapolis Chapter members to inspect it when it is completed. They have the new bin aerating system going in here and curiosity is running rampant.

AUTOMATIC SAMPLING

Am working to see if the automatic grain sampler we all use here can be universally adapted to sampling cars while unloading.—M. Frank Beyer, Grand Trunk Pacific Elevator, Fort William, Ontario.

THIS COLUMN IS CONDUCTED BY—

This page of Society news and views is conducted by we galley slaves! Enuf sed! Help! Help! Help! Questions and answers, mechanical problems, personal notes, and other news and views are very welcome. Help! Help! Help!

WATERFRONT CONTEST

Hollis Graves is "hot" and hopes to capture the Waterfront Golf Championship this year. He is the undisputed champion of the S.O.G.E.S.O.N.A. but our local match sometimes outshines that in interest. He won handily over N. M. Paterson Company's Percy Poulton of Fort William, Stratton Grain Company's Jack Waterbury of Chicago, and myself—after looking for the Minneapolis Golf Club from the Nicollet Hotel to Lake Minnetonka at the time of the convention. Henry Schipper of Monarch arranged for the golf game and also misled three of us who listened to him and drove our balls into the lake at the tenth hole. . . . Hope everything is coming along satisfactorily, and give my best regards to all the boys.—Oscar W. Olsen, Peavey Duluth Terminal Elevator Co., Duluth.

THE ORIGINAL "OL' NICK"

Want to congratulate the boys on the way they conducted the Society's convention this year. There seemed to be more sincerity of purpose among the Superintendents than any of the great many conventions I've attended. You had a very full schedule and the men seemed to be more interested in discussing their various problems than in spending any time in diversion. This is unusual and everyone who attended is to be complimented.—R. J. S. "Nick" Carter of Minneapolis.

OUR VACATION NUMBER

Must sound mighty perplexing to read such a title, particularly when the terminal elevator operators all enjoy their respite ere the mountains of grain move, —but others must be considered. See you sooner next month!

CHICAGO CHAPTER ELECTS

Capable Gilbert Lane, Superintendent of Arcady Farms Milling Company, is the new president and program chairman of the Chicago Superintendent's Chapter, succeeding Bartlett Frazier's efficient Henry Keir—of the Wabash Elevator. Mr. Lane was Vice President last term, it being a matter of record that this procedure be followed. Elevated to his post is the likable Jack Waterbury of Stratton Grain Company's Sante Fe Elevator, who likewise becomes Membership and Attendance Chairman. Phil Grotevant of Daniel F. Rice & Company's Grand Trunk Elevator is the new Secretary and Chairman of the Arrangements Committee, succeeding "Barley" Weller who still has promised to be Chief Chef and Maitre D'. John J. Becker of Rosenbaum Brothers' "Belt" Elevator; James Auld, Northwestern Malt & Grain Company; E. Buelens, Glidden Company; Barney Weller, and H. G. Onstad of James Stewart Corporation, are the new directors. Mr. Keir set a mighty hard pace to surpass but as both he and Bill Gassler, of Rosenbaum Brothers' "Calumet" Elevators, another past Chapter president, continue as perpetual directors this unit hopes to keep the Minneapolis boys from running the threatened "circles" around them in new membership and attractive programs. Officers' annual reports, a summary of the Duluth-Minneapolis convention by those present and a six-angled discussion on dust explosions, followed. Messrs. Keir and Weller reported the best years in accomplishments and monetary recognition. A rising vote of thanks and appreciation was extended to Mr. Keir.

SPECIAL SPOUT METAL SOON

I want to tell you how much I enjoyed being with all the fine fellows at the Elevator Superintendents convention. . . . What's more — The Armco Research Department has agreed to study the problem of the wearing away of grain spouts with the hope that something worth-while can be accomplished. This makes me happy for I have great confidence in these research fellows when they set about to do a job in earnest. . . . Will make some experimental installations and we should have some interesting stories of results from them at the next convention.—Ben-nett Chapple, Vice President, American Rolling Mill Co., Middletown, Ohio—the "Ironmaster" of the air.

URGE CHECK ON STORAGE STOCKS

At a short hearing to which elevator interests were invited, government representatives late last month heard a plea by officials of the Chicago Board of Trade that federally licensed warehouses be subjected to the same restrictions as those now known as "regular" for storage of grain in connection with cash and futures activities.

The new Commodity Exchange Act goes into effect September 13. Under it federally licensed warehouses may issue receipts deliverable on contracts made on exchanges. The Board of Trade now recognizes only certain state licensed elevators which comply with its own requirements.

Although the Board of Trade urged a seven-point program on the federal representatives, in the hearing conducted by H. S. Yohe, administrator of the United States Warehouse Act, the point stressed most was a plea for inclusion of a regulation providing for a semi-annual check on storage stocks of grain by a committee of bankers.

Board representatives declared that the eighty



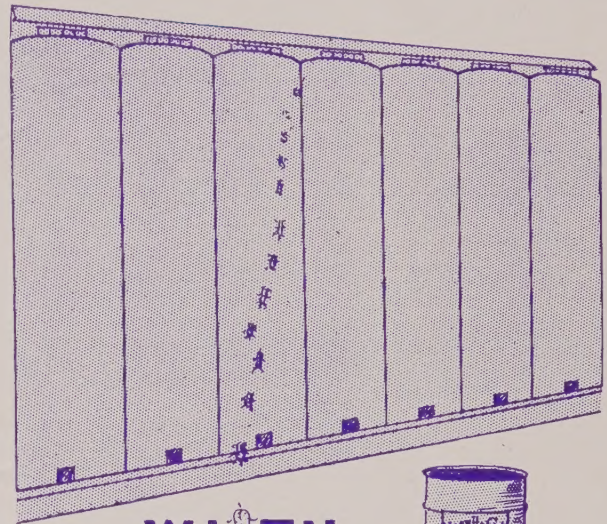
● Yes, this bolt is designed to help make your belts last longer and it does that exactly. Its sharp conical point makes installation easier and eliminates the necessity of punching the belt which invariably results in fraying, cracking and ravelling.

● The savings it effects has brought about its adoption as "Standard" by many of the Country's largest Grain Elevators and engineering and construction firms. You'll agree it's the best heavy duty bolt you ever used for attaching buckets

If you'd like to try it, send for samples and name of your dealer.



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Protect elevator legs
against dust explosion hazards with:

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years' experience of their organization had proved the wisdom of "safeguarding" the interests of contracting parties by subjecting elevators and their operations to strict regulation along the lines pointed out by testimony. The federal representatives took their requests under advisement and said a decision would be announced before the act goes into effect.



"X" Marks
the
Weak Spot

Visitors and employees at Corn Products' plants have inquired why the letter "X" is scored on the window glass in departments where there is a dust explosion hazard such as the Dry Starch Department, Feed House, Corn Elevator, etc.

With the cooperation of the United States Department of Agriculture's Principal Engineer in Charge, Dr. D. J. Price, certain definite facts have been established as a result of actual explosion tests carried on which indicate that the first requisite in the event of a dust explosion is to permit the minor or first flash or puff to vent itself to the outside atmosphere, thus relieving pressures developed and preventing a serious loss of life and structural damage.

Ordinary double strength glass, when scored on the weather side of the glass with a letter "X" beginning at a point two inches from each corner, weakens the glass to such an extent that should an explosion occur, it only requires 100 to 140 pounds per square foot to break the glass, whereas the same glass unscored requires a pressure ranging from 500 to 800 pounds per square foot.

XYLOPHONES, YACHTS & ZITHERS

There are only four letters of the alphabet not now in use by the Administration. When we establish Quick Loans Corporations for Xylophones, Yachts and Zithers, the alphabet will be exhausted.—

The Japanese national hobby: Collecting china.

The first law of repartee — better never than late.

Out of the Blower

✓ ACCIDENT?

Dusty: How did Bill die?

Musty: He fell through some scaffolding.

Dusty: What was he doing up there?

Musty: Being hanged.

✓ WHOOPS!

The magazine subscription man was met at the door by the colored maid.

"I would like to see the lady of the house," he said.

"Lawsy, Ah specs you would — she's takin' her bath!"

The Elevator Industry could stand a New Deal — in fact, a GREAT DEAL — of new grain.

✓ NUDIST NOTE

One of the champion superintendents of a northern city reports he overheard a constable making an arrest on the banks of a stream where the superintendent had hied away to catch some fish.

Constable: "I place ye under arrest, Miss, swimming is not allowed in this stream."

Girl: "Why didn't you tell me before I undressed?"

Constable: "Well, er, there ain't no law agin undressin'!"

✓ AMEN!

Texas was the scene: A colored workman in an elevator there was a pastor on the side. One night he addressed his flock as follows: "De subject of my sermon dis evenin' is 'Liars.' How many in de congregation has done read de sixty-ninth chapter of Matthew?"

Nearly every hand was raised immediately.

"Dat's right," murmured the reverend shoveler softly, "you all is just the folks ah wants to preach to. DERE IS NO CHAPTER SIXTY-NINE IN MATTHEW!"

✓ NIGHTIE-NITE!

Anne Nex: My husband has no idea what I go through when he snores.

Ella Vator: Mine never misses his small change either.

✓ BANG!

Chaffy: Say, how did Battle Creek, Michigan, get its name?"

Daffy: Don't know, unless it's because they start so many breakfast feuds there.



Whether you spell it "drought" or "drouth" it still means empty bins.

✓ HM-M-M!

Superintendent Hardwinter: If I were as lazy as you, I'd jump off my elevator.

Onery Oiler: No you wouldn't. If you were as lazy as me you wouldn't have an elevator.

Another drouth, and the corncob pipe will make the meerschbaum or briar a badge of poverty.

✓ POEM

Grain is O. K.

But keep it away

From government interference . . .

RESTRICTED DROUTH

Superintendent Wee Ville, a very virtuous bozo, upon refusing a drink explained: "In the first place, I promised my wife not to drink; in the second place, my doctor told me not to drink; and in the third place, gents, I just had a drink!"

✓ "MOANING LOW"

Said Mr. Tank to Mr. Bin,

"Why do we feel so low?"

Said Mr. Bin to Mr. Tank,

"There ain't no grain, you know."

IRISH PROTEST

Oats O'Brian: Tell me, lad, did you register a protest about that speaker last night saying the Irish were disorderly?

Rye Riley: Did I? I wrecked the hall!

If Il Duce succeeds in raising an Ethiopian grain crop, his first market probably will be North America. . . .

✓ SEE THE BIRDIE!

Photographer: Do you want a large or small picture?

"Slip" Belt: A small one.

Photographer: Then close your mouth.

✓ RAH, RAW

Mr. Ippy: Why don't they need a cook in a nudist camp?

Mississippi: Because they eat in the raw.

✓ LOGIC

Supt. Oatclips: Any objection to a whiskey and soda, MacGregor?

MacGregor: Never heard of it.

Supt. Oatclips: What! Never heard of a whiskey and soda?

MacGregor: No, I never heard of an objection.

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greater satisfaction

more courteous treatment

service that "builds"

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